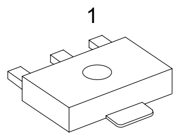
UTC **UNISONIC TECHNOLOGIES CO., LTD**

2SB1386

PNP SILICON TRANSISTOR

LOW FREQUENCY PNP TRANSISTOR



SOT-89

*Pb-free plating product number: 2SB1386L

■ FEATURES

* Excellent DC current gain characteristics
* Low $V_{CE(SAT)}$
  $V_{CE(SAT)}$= -0.35V (Typ)
  (I_C/I_B = -4A/-0.1A)

■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
2SB1386-x-AB3-F-R	2SB1386L-x-AB3-F-R	SOT-89	B	C	E	Tube

2SB1386L-x-AB3-F-R

(1)Packing Type	(1) R: Tape Reel
(2)Pin Assignment	(2) refer to Pin Assignment
(3)Package Type	(3) AB3: SOT-89
(4)Rank	(4) x: refer to Classification of h_{FE}
(5)Lead Plating	(5) L: Lead Free Plating, Blank: Pb/Sn

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C ,unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	-30	V
Collector-Emitter Voltage	V_{CEO}	-20	V
Collector-Emitter Voltage	V_{EBO}	-6	V
Collector Current (DC)	$I_{C(DC)}$	-5	A
Collector Current (Pulse)(Note1)	$I_{C(PULSE)}$	-10	A
Collector Power Dissipation	P_C	0.5	W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55 ~ +150	℃

Note 1. Single pulse, Pw=10ms

2. Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS(Ta=25°C, unless otherwise specified)

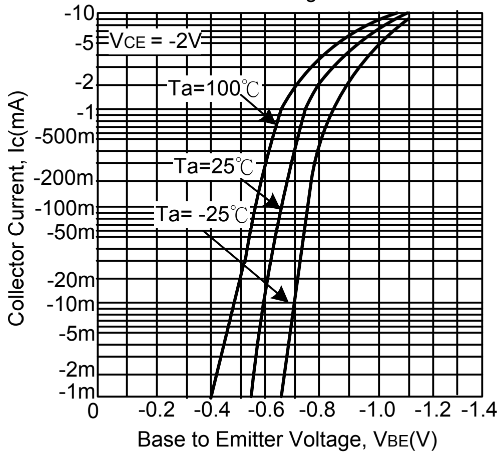
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Base Breakdown Voltage	BV_{CBO}	I_C= -50μA	-30			V
Collector Emitter Breakdown Voltage	BV_{CEO}	I_C= -1mA	-20			V
Emitter Base Breakdown Voltage	BV_{EBO}	I_E= -50μA	-6			V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C/I_B= -4A/-0.1A			-1.0	V
Collector Cut-off Current	I_{CBO}	V_{CB}= -20V			-0.5	μA
Emitter Cut-off Current	I_{EBO}	V_{EB}= -5V			-0.5	μA
DC Current Gain	h_{FE}	V_{CE}= -2V, I_C= -0.5A	82		390	
Transition Frequency	f_T	V_{CE}= -6V, I_E= 50mA, f=30MHz		120		MHz
Output Capacitance	Cob	V_{CB}= -20V, I_E= 0A, f=1MHz		60		pF

■ CLASSIFICATION OF h_{FE}

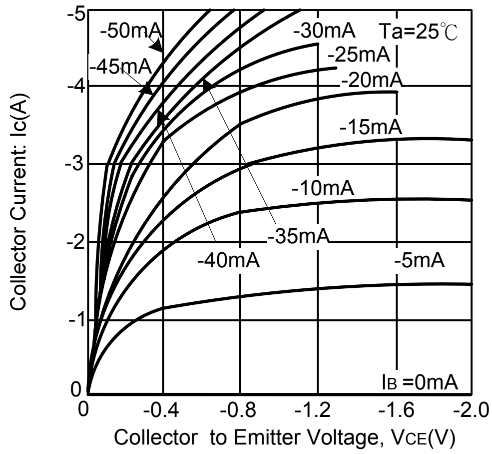
RANK	P	Q	R
RANGE	82-180	120-270	180-390

■ TYPICAL CHARACTERISTICS

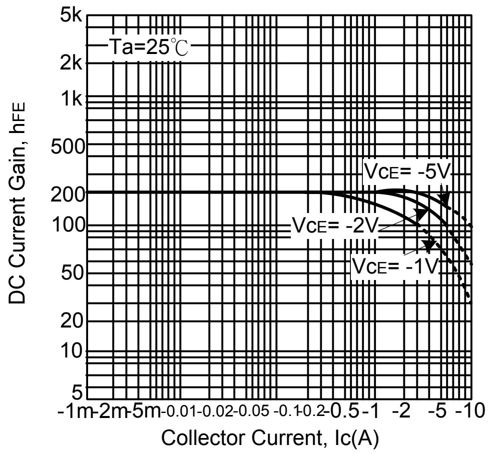
Collector Current vs. Base to Emitter Voltage



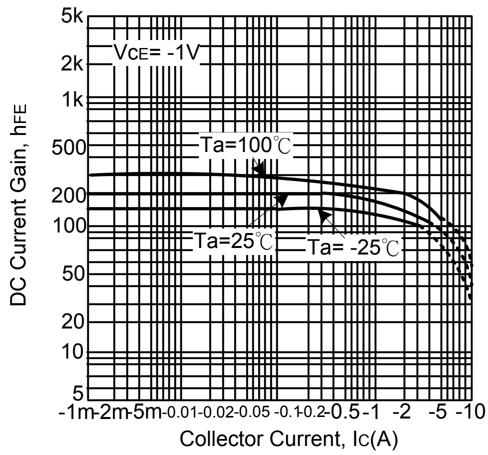
Collector Current vs. Collector to Emitter Voltage



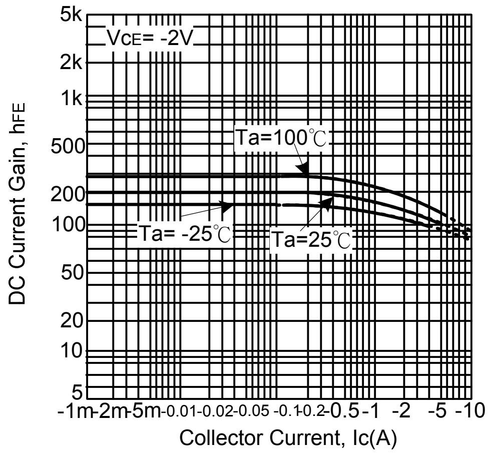
DC Current Gain vs. Collector Current(1)



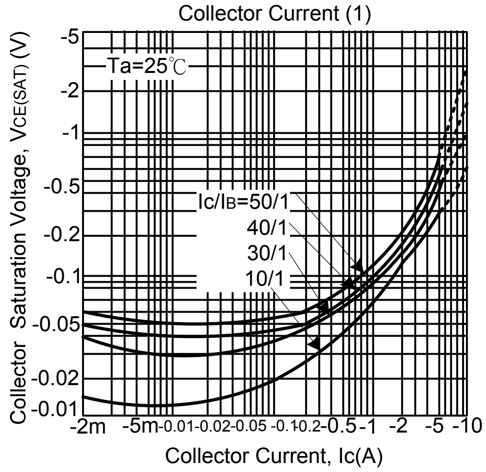
DC Current Gain vs. Collector Current(2)



DC Current Gain vs. Collector Current

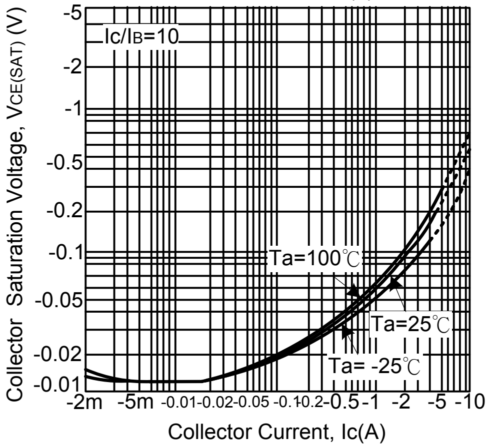


Collector-Emitter Saturation Voltage vs. Collector Current (1)

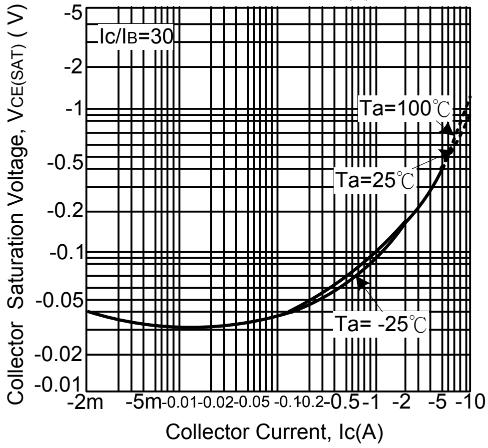


■ TYPICAL CHARACTERICS(Cont.)

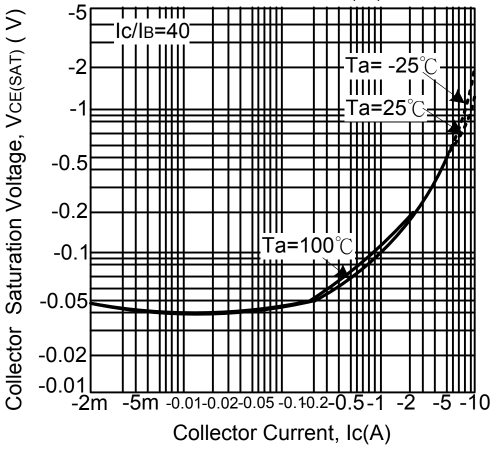
Collector-Emitter Saturation Voltage vs. Collector Current (2)



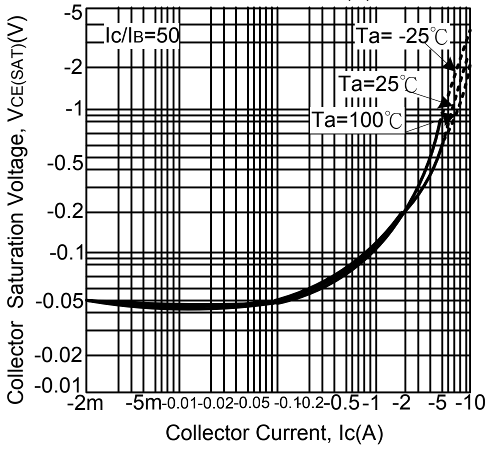
Collector-Emitter Saturation Voltage vs. Collector Current (3)



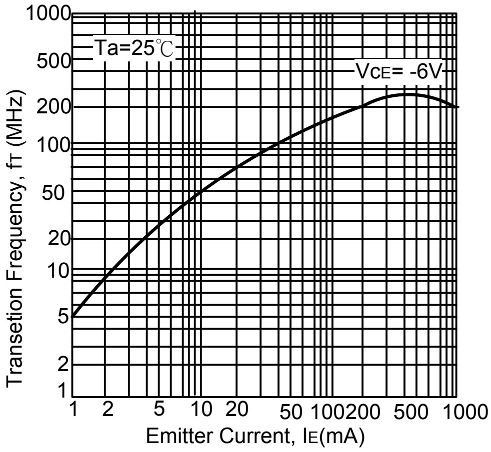
Collector-Emitter Saturation Voltage vs. Collector Current (IV)



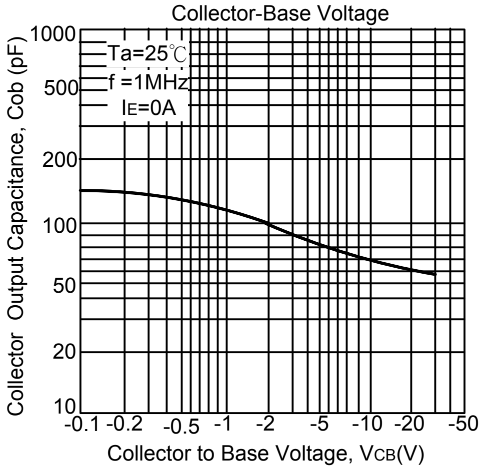
Collector-Emitter Saturation Voltage vs. Collector Current (V)



Transetion Frequency vs. Emitter Current



Collector Output Capacitance vs. Collector-Base Voltage



■ TYPICAL CHARACTERICS(Cont.)

